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TI 2-Pyrrolidones

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AB .gamma.-Butyrolactone (I) was treated with RNH<sub>2</sub> (R = H or C1-4 alkyl) and H (or optionally with steam) in the gas phase in the presence of a catalyst composed of Cu and a metal oxide (SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, ZrO<sub>2</sub>, or Cr<sub>2</sub>O<sub>3</sub>). Thus, a catalyst composed of CuO, CoO, and TiO<sub>2</sub> (atomic ratio of (Cu + Co):Ti = 43:100 and that of Co:Cu = 1:10) was prepd. from Na<sub>2</sub>CO<sub>3</sub>, TiO<sub>2</sub>, Cu(NO<sub>3</sub>)<sub>2</sub>·3H<sub>2</sub>O, and Co(NO<sub>3</sub>)<sub>2</sub> by mixing them in H<sub>2</sub>O followed by drying and heating at 300-350.degree.. A mixt. of 0.04 g/min I, 0.04 l./min NH<sub>3</sub>, and 0.23 l./min H was passed over the catalyst kept at 270.degree. for 3 hr to give 2.82 g 2-pyrrolidinone 1.57 g .gamma.-hydroxybutyramide and 0.36 g unreacted I. Similarly prepd. were N-methyl- and N-propyl-2-pyrrolidinone.

DT Patent

LA Japanese